

CLAIMS

What is claimed is:

1. A nail polish remover composition comprising:

5 between 10% and 98% by weight of at least one alkylene carbonate solvent;

between 1.5% and 25% by weight water; and

an effective amount of a pH-buffering agent that is chemically inert in said composition and that maintains the pH 10 of said composition between approximately pH 2 and pH 6.5.

2. The composition of claim 1, wherein said composition comprises between 10% and 50% by weight of at least one alkylene carbonate solvent.

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3. The composition of claim 1, wherein said composition comprises between 51% and 98% by weight of at least one alkylene carbonate solvent.

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4. The composition of claim 3, wherein said composition comprises between 85% and 90% by weight of at least one alkylene carbonate solvent.

25 5. The composition of claim 1, wherein said alkylene carbonate solvent is selected from the group consisting of propylene carbonate, ethylene carbonate and combinations thereof.

30 6. The composition of claim 1, further comprising a thickener that is soluble and chemically stable in said composition, and that can increase the viscosity of said composition to a value of between 100 and 10,000 cps at room temperature.

7. The composition of claim 6, wherein said thickener is selected from the group consisting of hydroxypropyl ethylcellulose, hydroxypropyl cellulose, polyoxyethylene, microparticulate fumed silica and combinations thereof.

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8. The composition of claim 1, wherein said pH-buffering agent is selected from the group consisting of citric acid/citrate buffer, citric acid/dibasic phosphate buffer, acetic acid/acetate buffer, succinic acid/succinate buffer and combinations thereof.

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9. The composition of claim 1, further comprising an effective amount of a preservative agent that prevents microbial growth in said composition.

15 10. The composition of claim 9, wherein said preservative agent is selected from the group consisting of methylparaben, propylparaben, DMDM hydantoin, ethylenediaminetetraacetate and combinations thereof.

20 11. The composition of claim 1, further comprising up to 20% by weight of at least one glycol as a co-solvent to increase the solubility of said water in said alkylene carbonate solvent.

25 12. The composition of claim 6, further comprising up to 20% by weight of at least one glycol as a co-solvent to increase the solubility of said thickener and said water in said alkylene carbonate solvent.

30 13. The composition of claim 11, wherein said glycol is selected from the group consisting of propylene glycol, dipropylene glycol, methylpropanediol glycol and combinations thereof.

14. The composition of claim 12, wherein said glycol is selected from the group consisting of propylene glycol, dipropylene glycol, methylpropanediol glycol and combinations thereof.

5 15. The composition of claim 1 or claim 6, further comprising up to 50% by weight of a low reactivity volatile organic compound (LR-VOC) that complies with governmental regulations for nail polish removers and that is a potent solvent for dissolving nail lacquers.

10 16. The composition of claim 15, wherein said LR-VOC is selected from the group consisting of acetone, methyl acetate and combinations thereof.

15 17. The composition of claim 15, further comprising up to 0.5% by weight of glycerol.

18. The composition of claim 15, wherein any regulated volatile organic compounds (VOCs) in said composition are limited to government approved low vapor pressure volatile organic compounds (LVP-VOC) approved for use in nail polish removers.

20 19. The composition of claim 1, further comprising at least one additional LVP-VOC solvent selected from the group consisting of 2-pyrrolidone, tetraethyleneglycol dimethyl ether, dimethyl adipate and tripropylene glycol methyl ether.

25 20. The composition of claim 1, wherein said composition is packaged in a container.

30 21. The composition of claim 20, wherein said container has a liquid capacity of between one-eighth and eight ounces.

22. The composition of claim 20, wherein said composition is packaged in a container with a reusable applicator.

23. The composition of claim 22, wherein said reusable applicator  
5 is selected from the group consisting of a removable applicator that can be manipulated separately from said container, and a permanent applicator that is used as a portion of said container.

24. The composition of claim 23, wherein said removable applicator  
10 is selected from the group consisting of a brush, a swab, a spatula and a roller or other rotating device.

25. The composition of claim 23, wherein said permanent applicator  
15 is selected from the group consisting of a nib, a brush, a comb-like device, an absorbent porous pad, a substantially non-absorbent porous pad, a porous membrane and a roller or other rotating device.

26. A paint remover composition comprising:  
20        between 10% and 98% by weight of at least one alkylene carbonate solvent;  
            between 1.5% and 25% by weight water; and  
            an effective amount of a pH-buffering agent that is chemically inert in said composition and that maintains the pH  
25 of said composition between approximately pH 2 and pH 6.5.

27. A method of using a nail polish remover composition comprising the steps of:  
            providing the composition of claim 1 packaged in a container;  
30        applying a first portion of said composition to an applicator;

using said applicator comprising said first portion of said composition to remove nail polish from a finger or toe nail of a user of said composition;

5 applying a second portion of said composition to said applicator; and

using said applicator comprising said second portion of said composition to remove nail polish from a finger or toe nail of a user of said composition.

10 28. The method of claim 27, wherein said composition is packaged in a container with a reusable applicator.

15 29. The method of claim 28, wherein said reusable applicator is selected from the group consisting of a removable applicator that can be manipulated separately from said container, and a permanent applicator that is used as a portion of said container.

20 30. The method of claim 29, wherein said removable applicator is selected from the group consisting of a brush, a swab, a spatula and a roller or other rotating device.

25 31. The method of claim 29, wherein said permanent applicator is selected from the group consisting of a nib, a brush, a comb-like device, an absorbent porous pad, a substantially non-absorbent porous pad, a porous membrane and a roller or other rotating device.

32. A method of extending the shelflife of a nail polish remover composition comprising the steps of:

30 providing a premeasured amount of the composition of claim 1 packaged in a closed container;

opening said container and removing a portion of the contents of said container, thereby exposing said contents to environmental contaminants; and

reclosing said container, whereupon said pH-buffering agent  
5 in helps stabilize said alkylene carbonate solvent against decomposition.